IN THE CLAIMS

Please amend the following claims. Please cancel claim 26.

1-20. (Cancelled)

21. (Currently Amended) A system for measuring a weight on a vehicle seat comprising:

a seat having a seat bottom;

a seat element for mounting said seat to a vehicle structure;

a seat support member for supporting said seat bottom relative to said seat element;

a bending beam with a first connecting portion for connection to said seat support member, a second connecting portion for connection to said seat element, and a central body portion extending between said first and second connecting portions, said central body portion having a narrowing neck section to concentrate strain in said central body portion; and

C2 CONT.

at least one sensor mounted directly to said narrowing neck section for measuring strain resulting from a weight force applied to said seat bottom wherein said beam includes an extension portion extending beyond one of said first or second connecting portions for supporting an electrical connector for connecting said sensor to a processing unit.

22. (Previously Presented) A system according to claim 21 wherein said bending beam defines a first width at said first and second connecting portions and said neck section defines a second width that is narrower than said first width.

23. (Previously Presented) A system according to claim 22 wherein said first connecting portion provides sole connection of said bending beam to said seat support member and said second connecting portion provides sole connection of said bending beam to said seat element.

24. (Previously Presented) A system according to claim 22 wherein said first and second connecting portions and said central body portion are coplanar.

25. (Previously Presented) A system according to claim 24 wherein said first and second connecting portions and said central body portion form an hourglass shape.

C2 cont.

26. (Cancelled)

27. (Currently Amended) A system according to claim [26] 21 wherein said beam defines a longitudinal axis and said extension portion includes a mount for receiving said electrical connector via a linear insertion force along said longitudinal axis.

28. (Previously Presented) A system according to claim 27 wherein said electrical connector includes a first connector portion directly attached to one end of said beam and a second connector portion selectively mateable to said first connector portion to complete electrical connection between said sensor and said processing unit.

29. (Currently Amended) [A system according to claim 21 including] A system for measuring a weight on a vehicle seat comprising:

a seat having a seat bottom;

a seat element for mounting said seat to a vehicle structure;

a seat support member for supporting said seat bottom relative to said seat element;

a bending beam with a first connecting portion for connection to said seat support member, a second connecting portion for connection to said seat element, and a central body portion extending between said first and second connecting portions, said central body portion having a narrowing neck section to concentrate strain in said central body portion;

at least one sensor mounted directly to said narrowing neck section for measuring strain resulting from a weight force applied to said seat bottom; and

C2 Cont.

traces for electrically connecting said sensor to an electronics package wherein said sensor and said traces are screen printed on said beam.

30. (Previously Presented) A system according to claim 21 wherein said first connecting portion includes a first aperture for receiving a first fastener and said second connecting portion includes a second aperture for receiving a second fastener.

31. (Currently Amended) [A system according to claim 30 including] A system for measuring a weight on a vehicle seat comprising:

a seat having a seat bottom;

a seat element for mounting said seat to a vehicle structure;

a seat support member for supporting said seat bottom relative to said seat element;

a bending beam with a first connecting portion for connection to said seat support member, a second connecting portion for connection to said seat element, and a central body portion extending between said first and second connecting portions, said central body portion having a narrowing neck section to concentrate strain in said central body portion wherein said first connecting portion includes a first aperture for receiving a first fastener and said second connecting portion includes a second aperture for receiving a second fastener;

at least one sensor mounted directly to said narrowing neck section for measuring strain resulting from a weight force applied to said seat bottom; and

C2 cont.

a first insert mounted within said first aperture and having a first internal central bore for receiving said first fastener and a first stepped portion formed about an external perimeter of said first insert wherein said first stepped portion has a greater diameter than said first aperture such that a first gap is formed between said seat support member and said beam and including a second insert mounted within said second aperture and having a second internal central bore for receiving said second fastener and a second stepped portion formed about an external perimeter of said second insert wherein said second stepped portion has a greater diameter than said second aperture such that a second gap is formed between said seat element and said beam.

32. (Currently Amended) [A system according to claim 30 including] A system for measuring a weight on a vehicle seat comprising:

a seat having a seat bottom;

a seat element for mounting said seat to a vehicle structure;

a seat support member for supporting said seat bottom relative to said seat element;

a bending beam with a first connecting portion for connection to said seat support member, a second connecting portion for connection to said seat element, and a central body portion extending between said first and second connecting portions, said central body portion having a narrowing neck section to concentrate strain in said central body portion wherein said first connecting portion includes a first aperture for receiving a first fastener and said second connecting portion includes a second aperture for receiving a second fastener;

a first shim having a first internal central bore for receiving said first fastener and a first connector for attaching said first shim to said beam and including a second shim having a second internal bore for receiving said second fastener and a second connector for attaching said second shim to said beam; and

C2 cont.

at least one sensor mounted directly to said narrowing neck section for measuring strain resulting from a weight force applied to said seat bottom.

33. (Previously Presented) A system according to claim 32 wherein said first shim is mounted in direct engagement with an upper surface of said first connecting portion and said second shim is mounted in direct engagement with a lower surface of said second connecting portion.

34. (Previously Presented) A system according to claim 32 wherein said first connector comprises a first transversely extending tab and said first connecting portion includes

a first slot spaced outwardly from said first aperture for receiving said first transversely extending tab and wherein said second connector comprises a second transversely extending tab and said second connecting portion includes a second slot spaced outwardly from said second aperture for receiving said second transversely extending tab.

35. (Previously Presented) A system according to claim 32 wherein said first connector comprises at least one first hole and said first connecting portion includes at least one first corresponding hole spaced outwardly from said first aperture and aligned with said first hole for receiving a first pin and wherein said second connector comprises at least one second hole and said second connecting portion includes at least one second corresponding hole spaced outwardly from said second aperture and aligned with said second hole for receiving a second pin.

C2 Cont.

36. (Previously Presented) A weight sensor assembly for measuring a weight on a vehicle seat comprising:

a bending beam having a first connection portion engageable with an upper seat structure and a second connection portion engageable with a lower seat structure;

a bendable central body portion coplanar with and extending between said first and second connection portions, said central body portion having a narrowing neck to concentrate strain in said central body portion; and

a strain gage assembly mounted directly to said narrowing neck for measuring the strain at said central body portion resulting from a weight force being exerted against the upper seat structure.

37. (Previously Presented) An assembly according to claim 36 wherein said beam includes an extension portion extending beyond one of said first or second connection portions for supporting an electrical connector to connect said strain gage to a processing unit.

38. (Previously Presented) An assembly according to claim 37 wherein said beam defines a longitudinal axis and said extension portion includes a mount for receiving said electrical connector via a linear insertion force along said longitudinal axis.

C2 cont.

39. (Previously Presented) An assembly according to claim 38 wherein said electrical connector includes a first connector portion directly attached to one end of said beam and a second connector portion selectively mateable to said first connector portion to complete electrical connection between said sensor and said processing unit.

40. (Previously Presented) An assembly according to claim 37 including an electronics package mounted on said beam adjacent to said electrical connector.

41. (Previously Presented) An assembly according to claim 40 including traces for electrically connecting said strain gage assembly to said electronics package wherein said strain gage assembly, said traces, and said electronic package are screen printed on said beam.

42. (Previously Presented) An assembly according to claim 41 including a protective member for enclosing said electronics package.

43. (Previously Presented) An assembly according to claim 36 wherein said first connecting portion includes a first aperture for receiving a first fastener and said second connecting portion includes a second aperture for receiving a second fastener, said first fastener providing sole connection of said beam to said upper seat structure and said second fastener providing sole connection of said beam to said lower seat structure.

C2 cont.

44. (Previously Presented) An assembly according to claim 43 including a first insert mounted within said first aperture and having a first internal central bore for receiving said first fastener and a first stepped portion formed about an external perimeter of said first insert wherein said first stepped portion has a greater diameter than said first aperture such that a first gap is formed between said upper seat structure and said beam and including a second insert mounted within said second aperture and having a second internal central bore for receiving said second fastener and a second stepped portion formed about an external perimeter of said second insert wherein said second stepped portion has a greater diameter than said second aperture such that a second gap is formed between said lower seat structure and said beam.

45. (Previously Presented) An assembly according to claim 44 including a first shim having a first center opening in alignment with said first internal central bore for receiving said first fastener and a second shim having a second center opening in alignment with said second internal bore for receiving said second fastener wherein said first shim is positioned between an upper surface of said first connecting portion and said upper seat structure and said second shim is positioned between a lower surface of said second connecting portion and said lower seat structure.

46. (Previously Presented) A weight sensor assembly for measuring a weight on a vehicle seat comprising:

C2 cont.

a bending beam having a first connection portion engageable with an upper seat structure and a second connection portion engageable with a lower seat structure;

a bendable central body portion extending between said first and second connection portions; and

a sensor assembly comprising a first thick film portion applied directly to said central body portion for measuring the strain resulting from a weight force being exerted against the upper seat structure wherein said sensor assembly generates a weight signal representative of said weight force.

47. (Previously Presented) An assembly according to claim 46 including an electrical component mounted to one end of said bending beam for communicating said weight signal to a

control unit and a plurality of traces interconnecting said electrical component and said sensor assembly.

48. (Previously Presented) An assembly according to claim 46 wherein said traces include a second thick film portion formed contiguously with said first thick film portion.

[50.] 49. (Currently Amended) An assembly according to claim 48 wherein said first and second thick film portions are screen printed on said bending beam using a thick film material.

[51.] 50. (Currently Amended) An assembly according to claim [50] 49 wherein said electrical component, sensor assembly, and traces are simultaneously screen printed on said bending beam using said thick film material.

C2 Cont.

[52.] 51. (Currently Amended) An assembly according to claim [50] 49 wherein said sensor assembly comprises a plurality of grids with associated electronics to form a full-bridge strain gage.

[53.] 52. (Currently Amended) An assembly according to claim [52] 51 including an electrical connector cooperating with said electrical component to communicate said weight signal to said control unit.

[54.] 53. (Currently Amended) An assembly according to claim [53] 52 wherein said bending beam defines a longitudinal axis and includes an extension portion formed at one end for supporting said electrical connector wherein said electrical connector is coupled to said electrical component via a linear insertion force in a direction generally parallel to said longitudinal axis.

[55.] 54. (Currently Amended) An assembly according to claim [50] 49 wherein said central body portion is coplanar with said first and second connection portions and includes a narrowing neck to concentrate strain in said central body portion.

C2 Cont.

[56.] 55. (Currently Amended) An assembly according to claim [55] 54 wherein said first connecting portion includes a first aperture for receiving a first fastener and said second connecting portion includes a second aperture for receiving a second fastener, said first fastener providing sole connection of said beam to said upper seat structure and said second fastener providing sole connection of said beam to said lower seat structure.

[57.] 56. (Currently Amended) A method for measuring a weight on a vehicle seat comprising the steps of:

(a) providing a bending beam having a first connection portion engageable with an upper seat structure, a second connection portion engageable with a lower seat structure; and a bendable central body portion extending between the first and second connection portions;

(b) applying a thick film material to the central body portion to form a weight sensor assembly;

(c) measuring a weight force being exerted against the upper seat structure with the weight sensor assembly; and

(d) generating a corresponding weight signal representative of the weight force.

[58.] 57. (Currently Amended) A method according to claim [57] 56 wherein step (b) further includes depositing the thick film material by screen printing.

C2 cont.

[59.] 58. (Currently Amended) A method according to claim [58] 57 wherein step (a) further includes providing an electrical component formed on one end of the bending beam for communicating the weight signal to the control unit and a plurality of traces interconnecting the electrical component and the sensor assembly and wherein step (b) further includes applying the thick film material to contiguously form the weight sensor assembly, traces, and electrical component.

[60.] 59. (Currently Amended) A method according to claim [59] 58 including the step of enclosing the electrical component within a protective cover.